



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/325,427	06/04/1999	MOTOFUMI KAKIUCHI	072982-0182	2796

7590 04/22/2004
FOLEY & LARDNER
SUITE 500
3000 K STREET NW
WASHINGTON, DC 200075109

EXAMINER

PHAN, MAN U

ART UNIT	PAPER NUMBER
----------	--------------

2665

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/325,427

Applicant(s)

KAKIUCHI, MOTOFUMI

Examiner

Man Phan

Art Unit

2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-17,19-27 and 29-35 is/are rejected.
- 7) ☒ Claim(s) 7,18,28 and 34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 June 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2665

DETAILED ACTION

1. This communication is in response to applicant's 01/20/2004 Amendment and reply in the application of Kakiuchi for a "System and Method for high-capacity electronic switching" filed 06/04/1999. This application claims foreign priority based on the applications 10-158193 dated 06/05/1998 filed in Japan. This application is a Request for Continued Examination (RCE) under 37 C.F.R. 1.114 filed on February 23, 2004. The proposed amendments to the claims have been entered and made of record. Independent claims 1, 13, 24 and 30 have been amended. Claims 1-35 are pending in the application.

Claim Rejections - 35 USC ' 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 18, 19 and 35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 18, 19 and 35, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP ' 2173.05(d).

Claim Rejections - 35 USC ' 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6, 8-10, 13-17, 19-21 and 24-27, 29-33, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ardon et al. (US#4,943,999 and US#5,119,366).

With respect to claims 1 and 13, Ardon et al. discloses an electronic switching system, and the switching arrangement for interconnecting the first stage switch modules when the second stage switch module is unavailable for connections, improved the prior art's switching system reliability.

Ardon (US#4,943,999) discloses a high-capacity electronic switching system comprising: two or more first stage switch modules (200, 201, 202) to each of which one or more subscriber terminals (23, 24, 25, 26) are connected and each of which executes signal switching for signals from/to the subscriber terminal (Fig. 1, Col. 4, line 67 to Col. 5, line 8); a second stage switch module (10) for receiving a signal outputted by one of the first stage switch modules via a line (13, 14), switching the signal, and thereby outputting the signal to another one of the first stage switch module via a line (15, 16)

Art Unit: 2665

(Fig. 1; Col. 4, lines 18-25). Ardon does not expressly disclose each of the first stage switch modules is connected to another one of the first stage switch modules via a special-purpose link for setting a communication link between the first stage switch modules. However, Ardon (US#4,943,999) suggests in Figs. 4-6 illustrated the arrangements for interconnecting switch modules with inter-switch module trunks (special purpose link for inner-connecting the switching modules). In Fig. 6, each of the switching modules 200 through 202 of a first switching system, switching system I (*first stage switch modules*), is connected by an interoffice trunk 109 through 111, respectively, to a second switching system, switching system II (*second stage switch modules*). Switching system II is an end office switching system that receives trunks from other switching systems and completes paths to subscribers, e.g., 220 and 221 served thereby and to trunks, e.g., 222 to other switching systems (*the second stage switching module which inner-connects two or more of first stage switching modules*) (Col. 13, lines 50 plus). Furthermore, Ardon et al. (US#5,119,366) discloses a call processing method for distributed switching which substantially increases the percentage of calls that are intra-module calls by distributing the members of trunk groups among a plurality of switching modules and biasing the processing of a call originating on one switching module such that an available trunk group member on that same switching module is assigned to the call if possible. The path hunt function for intra-module calls is separated from the corresponding function for inter-module calls and only the latter function is performed by the system central control. The separation is achieved by dividing the set of switch path resources, e.g., channels or time slots, associated with a switching module into two

disjoint subsets--a first subset for intra-module call connections and a second subset for inter-module call connections (See Fig. 4, and the Abstract).

Regarding claims 2 -3, and 14-15, Ardon et al. further teaches in Fig. 4 illustrated the arrangements for interconnecting switch modules, in which every two of the first stage switch modules (201s) are connected together by a line of the special-purpose link directly; the special purpose link connects the first stage switch modules so that communication links between every two first stage switch modules (201s) can at least be set via one or more lines of the special purpose link (Col. 6, lines 37 plus).

Regarding claims 4 , 8 and 16, 19, Ardon teaches a stand alone operation between switching modules 201, 202 wherein the setting of the communication link via the special purpose link (211) is executed when an abnormal condition of the second stage switch module (10) occurred and normal communication link setting between two first stage switch modules (201, 202) via the second stage switch module (10) is impossible (Fig. 6; Col. 8, lines 9-20 and Col. 11, lines 50-59).

Regarding claims 5-6 and 17, Ardon teaches in Fig. 6 illustrated a switching system including a central control unit (30) for controlling the first stage switch modules (via CUs 17, 18) and the second stage switch module (10) (Col. 6, lines 36-40 and Col. 7, lines 55-58).

Regarding claims 9-10 and 20-21, Ardon further teach a communication switching arrangement for establishing communication paths, in which the special purpose link communicates analog and digital signals (Fig. 6; Col. 5, lines 8-12).

Regarding claims 24-27, 29 and 30-33, 35, they are method claims corresponding to the apparatus claims 1-6, 8-10 and 13-17, 19-21 above. Therefore, claims 24-27, 29

Art Unit: 2665

and 30-33, 35 are analyzed and rejected as previously discussed with respect to claims 1-6, 8-10 and 13-17, 19-21.

One skilled in the art would have recognized the need for interconnecting the first stage switch modules when the second stage switch module is unavailable for connections, and would have applied Ardon et al.'s teaching of the switch modules interconnected with each other by the special communication medium into Ardon's novel use of a special-purpose link in a communication switching arrangement. Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply Ardon's call processing method for distributed switching into Ardon's switching system reliability with the motivation being to provide a method and system for high-capacity electronic switching in data communications.

5. Claims 11-12 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ardon et al. (US#4,943,999 and US#5,119,366) as applied to the claims above, and further in view of Hiraiwa et al. (US#5,333,187).

With respect to claims 11-12 and 22-23, these claims differ from the claims above in that the claims require the channel associated signaling and common channel signaling employed in the special-purpose link. However, using signaling information techniques in communication links (connection signaling) are known as narrowband signaling Channel Associated Signaling (CAS) and Common Channel Signaling (CCS). These are two types of interoffice signaling employed in present day network. In the same field of endeavor, Hiraiwa et al. (US#5,333,187) discloses a switching system which employs

Art Unit: 2665

common channel signaling (CCS) and channel associated signaling (CAS) (Col. 2, lines 24-30).

One skilled in the art would have recognized the need for interconnecting the first stage switch modules when the second stage switch module is unavailable for connections, and would have applied Hiraiwa's teaching of the switching control system which employs common channel signaling and channel associated signaling into Ardon's novel use of a special-purpose link in a communication switching arrangement, and the switch modules interconnected with each other by the special communication medium. Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply Hiraiwa's switching system for electronic switching, and Ardon et al.'s call processing method for distributed switching into Ardon's switching system reliability with the motivation being to provide a method and system for high-capacity electronic switching in data communications.

Allowable Subject Matter

6. Claims 7, 18, 28 and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is an examiner's statement of reasons for the indication of allowable subject matter: The prior art of record fails to disclose or suggest wherein the setting of the communication link via the special purpose link is executed when an

Art Unit: 2665

abnormal condition of the control bus has occurred and the control information communication between the central control units via the control bus is impossible, as specifically recited in claims.

8. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Ardon (US#5,848,053) is cited to show the telecommunications network for serving users from multiple switches.

The Ardon et al.(US#5,105,420) is cited to show the method and apparatus for reconfiguring interconnections between switching system functional units.

The Ardon et al. (US#4,805,166) is cited to show the switch path reservation arrangement.

The Ardon et al. (US#4,566,094) is cited to show the channel selection in a switching system having clustered remote switching modules.

The Minamitani et al. (US#4,370,742) is cited to show the time division electronic switching system.

Art Unit: 2665

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Phan whose telephone number is (703)305-1029. The examiner can normally be reached on Mon - Fri from 6:30 to 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (703) 308-6602. The fax phone number for the organization where this application or proceeding is assigned is (703)305-3988.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

11. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

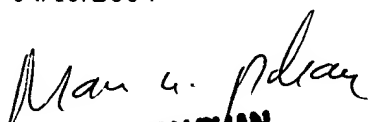
or faxed to: (703) 305-9051, (for formal communications intended for entry)

Or: (703) 305-3988 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

Mphan

04/15/2004


MAN PHAN
PATENT EXAMINER